

## **Remarks**

### **1. Summary of Office Action**

In the final Office Action mailed June 28, 2005, the Examiner rejected claims 24-29 under 35 U.S.C. § 112, second paragraph, and claims 19-23 and 25-29 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,214,646 (Yacoby). Further, the Examiner allowed claims 17 and 18.

### **2. Status of Claims**

Applicants have amended claims 24 and 25 to correct minor typographical errors. Applicants respectfully request entry of these amendments.

Presently pending in this application are claims 17-29, of which claims 17, 19, 24, and 25 are independent and the remainder are dependent.

### **3. Response to Claim Rejections under 35 U.S.C. § 112**

As noted above, the Examiner rejected claims 24-29 on grounds of indefiniteness. Applicants have corrected a minor typographical error in each of independent claims 24 and 25 that gave rise to the antecedent basis rejection under 35 U.S.C. § 112. Applicants respectfully submit that these corrections overcome the rejections of claims 24-29 under 35 U.S.C. § 112, second paragraph.

### **4. Response to Claim Rejections under 35 U.S.C. § 102**

Further, the Examiner rejected claims 19-23 and 25-29 as being anticipated by Yacoby. Under M.P.E.P. § 2131, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Applicants respectfully traverse the rejections of claims 19-23 and 25-29

because Yacoby does not disclose or suggest each and every element of any one of these claims.

Independent claims 19 and 25 (and dependent claims 20-23 and 26-29 by virtue of their dependence on respective claim 19 or 25) are directed to a routing device and method for selectively bridging an Ethernet frame related to a PPPoE connection.

More particularly, the claimed invention includes the steps of: (i) receiving an Ethernet frame from a first terminal, the Ethernet frame comprising an Ether\_Type field and a destination address, (ii) determining whether the Ether\_Type field includes a discovery code or a session code identifying status of a PPPoE connection, wherein the Ether\_Type field including the discovery code or the session code indicates that the Ethernet frame is related to the PPPoE connection, (iii) in response to a determination that the Ether\_Type field includes the discovery code, (a) storing the destination address in a memory and (b) bridging the Ethernet frame to a second terminal engaged in the PPPoE connection, the destination address of the Ethernet frame addressing the second terminal, and (iv) in response to a determination that the Ether\_Type field includes the session code, (a) determining whether the destination address matches a stored address in the memory and (b) bridging the Ethernet frame to the second terminal engaged in the PPPoE connection in response to the destination address matching the stored address, the destination address of the Ethernet frame addressing the second terminal.

Applicants respectfully submit that Yacoby does not teach or suggest this claimed combination of steps, as recited in various ways in each of claims 19-23 and 25-29.

Yacoby discloses a method and system for use in a bridge coupled between local area networks (LANs) such that the bridge serves to forward packets from one LAN to another LAN. In order to forward a packet from one LAN to a destination LAN, Yacoby discloses that the bridge can use source routing or transparent routing.

At best, Yacoby further discloses a process in which the bridge determines whether to use transparent routing or source routing with respect to a packet by examining routing information within the packet. For example, Fig. 3 and the accompanying text at col. 6, lines 1-27, cited by the Examiner, teaches this process in more detail.

As taught by Yacoby, when a bridge first receives a packet from a LAN, the bridge checks a destination address in the packet against a table of MAC addresses of nodes within the LAN. (See also, e.g., the passage cited by the Examiner at col. 8, line 62 to col. 9, line 22, that teaches an example bridge including a RAM memory storing a table of MAC addresses of nodes of the token ring LAN to which the bridge connects). If the packet destination address is in the table, then the bridge discards the packet, because the packet has arrived at the destination LAN. On the other hand, if the packet destination address is not in the table, the bridge has to forward the packet to the destination LAN.

The bridge then checks for a source routing identifier within the packet to be forwarded to determine how to forward the packet to the destination LAN. Namely, if the source routing identifier exists in the packet, source routing is used with respect to the packet. If the source routing does not exist, transparent routing is used with respect to the packet.

With all due respect, one skilled in the art reading disclosure in Yacoby would recognize that the packet-forwarding process taught in Yacoby involves entirely different set of steps than those specifically claimed by Applicant.

Namely, Applicant does not find in Yacoby any teaching or suggestion for the claimed process involving at least the steps of: (i) determining whether an Ether\_Type field in a packet received from a first terminal includes a discovery code or a session code identifying status of a PPPoE connection, where the Ether\_Type field including the discovery code or the session code indicates that the Ethernet frame is related to the PPPoE connection, and further (ii) *in response to a determination that the Ether\_Type field includes the discovery code, (a) storing the destination address in a memory and (b) bridging the Ethernet frame to a second terminal engaged in the PPPoE connection, the destination address of the Ethernet frame addressing the second terminal, and (iii) in response to a determination that the Ether\_Type field includes the session code, (a) determining whether the destination address matches a stored address in the memory and (b) bridging the Ethernet frame to the second terminal engaged in the PPPoE connection in response to the destination address matching the stored address, the destination address of the Ethernet frame addressing the second terminal.*

Thus, for example, a routing device can selectively bridge only those Ethernet frames that are related to recognized PPPoE connections, as determined from a destination address of an Ethernet frame matching an address stored by the routing device in a memory during a discovery phase of the PPPoE connection. Advantageously, by matching destination addresses to addresses stored in the memory during a discovery

phase of PPPoE connections, the routing device can selectively bridge only those Ethernet frames destined to terminals engaged in recognized PPPoE connections.

Because Yacoby fails to teach or suggest all of the limitations of claims 19-23 and 25-29, Yacoby fails to anticipate these claims under 35 U.S.C. § 102.

**5. Comments on Allowable Subject Matter**

Applicants thank the Examiner for allowing claims 17 and 18. Further, the Examiner indicated that claim 24 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. § 112, second paragraph. As noted above, Applicants have amended claim 24 to overcome the § 112 rejection. Applicants believe that claim 24 is in condition for allowance.

**6. Conclusion**

Accordingly, Applicants respectfully submit that all of presently pending claims 17-29 are in condition for allowance, and Applicants request favorable reconsideration in view of the above amendments and remarks.

Respectfully submitted,

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